GALGOTIAS UNIVERSITY

B.Tech. in Electrical Engineering Programme Structure

School/Dept.		Department of Electrical, Electronics and Communication Engg.	Program Name: B.Tech. in Electrical Engineering					
Semester		**1**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	C1UC122B	Engineering Mathematics-I	3	0	1	0	4	5
2	E2UC102C	Programming for Problem Solving using C	2	0	1	1	4	5
3	G2UA120B	Basic Electrical & Electronics Engineering	3	0	1	0	4	5
4	C1UB129T	Chemical and Biological Materials	3	0	0	0	3	3
5	G3UB101B	Engineering Design and Prototyping	3	0	1	0	4	5
6	L1UB120T	Yoga	2	0	0	0	0	2
		Total Semester Credit					**19**	
Semester		**2**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	C1UC222B	Engineering Mathematics-II	3	0	1	0	4	5
2	G2UC101B	Introduction to Digital Systems	2	0	1	0	3	4
3	E2UC201C	OOPS using Python	2	0	1	1	5	4
4	C1UC224T	Discrete Mathematics	3	0	0	0	3	3
5	O1UA104B	Communication Skills for Engineers	2	0	1	0	3	4
6	C1UD124B	Semi-conductor and Opto Electronic Devices	3	0	1	0	4	5
7	C1UB120T	Environmental Impact Analysis	2	0	0	0	0	2
		Total Semester Credit					**22**	
Semester		**3**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	C1UC321T	Functions of Complex Variables and Transforms	3	0	0	0	3	3
2	G2UC301C	Electronic Devices and Circuits	3	0	1	1	5	5
3	G2UB301B	Network Analysis and Synthesis	3	0	1	0	4	5
4	G2UC302T	Signals and Systems	3	0	0	0	3	4
5	G2UC303T	Electromagnetic Field Theory	3	0	0	0	3	3
6	G1UA306B	Design Thinking-1	1	0	1	0	2	3
7	K1UC320B	Communication Competency & Aptitude Building-1	1	0	1	0	2	2
		Total Semester Credit					**22**	
Semester		**4**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	C1UC420T	Probability and Stochastic Processes	3	0	0	0	3	3
2	G2UB407T	Control Systems	3	0	1	1	5	5
3	G2UB402B	Electrical Machine-I	3	0	1	0	4	5

4	G2UB406T	Fundamentals of Power Systems	3	0	0	0	3	3
5	G2UB405C	Electrical Measurement and Instrumentation	3	0	0	0	3	3
6	Provided by ERP	Introduction to MATLAB (Capsule course)	0	0	1	0	1	2
7	O1UA421B	Communication Competency & Aptitude Building-2	1	0	1	0	2	3
		Total Semester Credit					**21**	
Semester		**5**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	G2UB501B	Electrical Machine-II	3	0	1	0	4	5
2	G2UB502T	Power System Analysis	3	0	0	0	3	4
3	G2UB503C	Power Electronics	3	0	1	1	5	5
4	G2UB504B	Microcontroller and Embedded System	3	0	1	0	4	5
5	Provided by ERP	Automation and Control (Capsule course)	0	0	1	0	1	2
6	Provided by ERP	Design Thinking-2	1	0	1	0	2	3
7	E2UC521B	Python and Data Structures	3	0	1	0	4	5
		Total Semester Credit					**23**	
Semester		**6**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	O1UA602B	Campus 2 Corporate Training	1	0	1	0	2	3
2	G2UB603B	Power System Protection	3	0	1	0	4	5
3	********	Program Elective-I	3	0	0	0	3	4
4	********	Program Elective-II	3	0	0	0	3	3
5	Provided by ERP	Drives control and design/Power system control and operation (Capsule course)	0	0	1	0	1	2
6	********	Open Elective-I	3	0	0	0	3	3
7	G2UB604C	Electric Drives	3	0	1	1	5	5
		Total Semester Credit					**21**	
Semester		**7**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	********	Program Elective-III	3	0	0	0	3	3
2	********	Program Elective-IV	3	0	0	0	3	3
3	********	Open Elective-II	3	0	0	0	3	3
4	Provided by ERP	Open Elective-III (optional with capsule course)	3	0	0	0	3	3
5	G2UB702L	Industrial Internship-I (Min. 4 weeks)	0	0	0	1	1	0
6	G2UB703L	Capstone Design Phase-I	0	0	0	7	7	0
		Total Semester Credit					**20**	
Semester		**8**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**

1	G2UB704L	Capstone Design phase - II	0	0	0	18	18	0
2	G2UB705L	Industrial Internship-II (To be completed during 8 Semester only with min 3 to max. 6 months)	0	0	0	2	2	0
		Total Semester Credit					**20**	

Total Program Credit **168**

Programme Elective

School/Dept.		**Department of Electrical, Electronics and Communication Engineering**	**Program Name:B.Tech. in Electrical Engineering**					
Basket Name		**Instrumentation and Control Engineering**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	G2UB611T	Advanced Control System	2	1	0	0	3	3
2	G2UB612T	Industrial Automation and Control	3	0	0	0	3	3
3	G2UB613T	Industrial Instrumentation and Automation	3	0	0	0	3	3
4	G2UB614T	Power System Operation and Control	3	0	0	0	3	3
5	G2UB615T	Digital Control	2	1	0	0	3	3
6	G2UB616T	Automation and Robotics	3	0	0	0	3	3
7	G2UB617T	Introduction to PLC and SCADA	2	1	0	0	3	3
Basket Name		**Power Engineering**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	G2UB621T	Power System Equipments	3	0	0	0	3	3
2	G2UB601T	Power Quality	3	0	0	0	3	3
3	G2UB622T	FACTS and HVDC	3	0	0	0	3	3
4	G2UB623T	Energy Storage Systems	3	0	0	0	3	3
5	G2UB623T	Electrical and Hybrid Vehicle	3	0	0	0	3	3
6	G2UB624T	Modeling and Analysis of Electrical Machines	3	0	0	0	3	3
7	G2UB625T	Hydrogen Energy	3	0	0	0	3	3
8	G2UB626T	Smart grid cyber-security	3	0	0	0	3	3
9	G2UB627T	Energy efficient system.	3	0	0	0	3	3
10	G2UB628T	Introduction to Microgrid	3	0	0	0	3	3
11	G2UB629T	Power Plant Engineering	3	0	0	0	3	3
12	G2UB620T	Power System Deregulation	3	0	0	0	3	3
Basket Name		**Renewable Energy Engineering**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	G2UB630T	Energy Assessment and Audit	2	1	0	0	3	3
2	G2UB631T	Utilization of Electrical Energy and Traction System	3	0	0	0	3	3
3	G2UB632T	Power Electronics applications in Renewable Energy	3	0	0	0	3	3
4	G2UB633T	Special Electrical Machine	3	0	0	0	3	3
5	G2UB634T	Energy Modelling Simulation Using MATLab	3	0	0	0	3	3
6	G2UB635T	Solar PV Techniques and Installation	3	0	0	0	3	3

7	G2UB636T	Energy Storage Systems for EV	3	0	0	0	3	3
8	G2UB637T	Waste to Energy	3	0	0	0	3	3
9	G2UB638T	Impact of Energy Systems on Environments	3	0	0	0	3	3
10	G2UB639T	Energy Scenario and its Policy	2	1	0	0	3	3
11	G2UB602T	Battery Management System	3	0	0	0	3	3
Basket Name		**Processing and Computing Techniques**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	G2UB640T	Machine learning	3	0	0	0	3	3
2	G2UB641T	Image Processing using MATLAB	3	0	0	0	3	3
3	G2UB642T	Introduction to Scilab and its applications	3	0	0	0	3	3
4	G2UB643T	Human Computer Interface	3	0	0	0	3	3
5	G2UB644T	Digital Signal Processing	3	0	0	0	3	3
6	G2UB645T	Soft Computing	3	0	0	0	3	3
7	G2UB646T	Neural Networks and Fuzzy Control	3	0	0	0	3	3
8	G2UB647T	Neural Networks and Deep Learning Algorithms	3	0	0	0	3	3
Basket Name		**IoT Technology**						
S. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	G2UB651T	Introduction to IoT and its Applications	3	0	0	0	3	3
2	G2UB652T	Virtual Reality	3	0	0	0	3	3
3	G2UB653T	Raspberry Pi and its applications	3	0	0	0	3	3
4	G2UB654T	Introduction to Arduino programming and its applications	3	0	0	0	3	3